Intermat	**)**	**Departmental**
York County	**)**	**Findings of Fact and Order**
Biddeford, Maine	**)**	**Air Emission License**
A-302-71-G-R	**)**	

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Intermat of Biddeford, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their carbon composite manufacturing facility.

B. Emission Equipment

Intermat is authorized to operate the following equipment:

Fuel Burning Equipment

Equipment	**Maximum Capacity (MMBtu/hr)**	**Maximum Firing Rate (cf/hr)**	**Fuel Type, % sulfur**	**Stack #**
Boiler #1	1.1	11,000	natural gas	1

Process Equipment

Equipment	**Production Rate**	**Pollution Control Equipment**	**Stack #**
Pitch Impreg	1000 lb/24 hr	Fabric filter	6
Atmospheric Carbonizer	1200 lb/56 hr	Incinerator	2
#1 15KSI HIP	950 lb/42 hr	Spray Condenser	4
#2 15KSI HIP	950 lb/42 hr	Spray Condenser	4
#1 Graphitizer	220 lb/24 hr	Incinerator	3
#2 Graphitizer	220 lb/24 hr	Incinerator	3
Dust Collector	NA	Filter Screens	5

C. Application Classification

The application for Intermat does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of current licensed emission units only.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Emission Unit #1-Boiler #1

Intermat operates boiler #1 which has a maximum design heat input capacity of 1.1 MMBtu/hr firing natural gas. Boiler #1 is utilized primarily for facility heating needs and shall be limited to an annual fuel use of 9.0 $MMft^3$ (based on a 12 month rolling total).

C. Process Emission Units

Intermat produces graphite materials that are used as high temperature thermal insulators for a variety of applications, including defense and aerospace. Such emission sources include:

1) one pair of impregnation vessels controlled by condensers and high efficiency filters;

The impregnation stage involves two (2) vessels, one in which the pitch is melted and the second in which the part is impregnated. At ambient conditions the pitch resembles lumps of shiny coal. The pitch is heated to 300^oC, at which point it is liquid. Then the pitch is vacuum-pulled into the adjacent vessel until the part is submerged. The vacuum line vents into a condenser and a coalescent filter before exhausting to ambient air. The condenser, a 3' tall chamber with baffle plates, serves to trap some of the hydrocarbons in the pitch which are driven off in the process. The coalescent filter captures oil fumes generated in the vacuum pump and has a rated efficiency of 99.9% @ 0.1 micron. Both the condenser and filter are drained periodically, with effluent resembling heavy black oil.

2) one atmospheric carbonizer controlled by an incinerator;
The carbonizer takes fiber matrixes that have been impregnated with pitch and heats them to 800^{o}C for 48 hours after which they are cooled over 36 hours. This process converts the matrixes to a dense coke. The emissions from this process (heavy hydrocarbons) are vented to an incinerator. The natural gas fired incinerator has two (2) chambers with 800,000 Btu/hr heat input capacity to each. The incinerator shall operate at a temperature of at least 1600^{o}F with a minimum retention time of 0.5 seconds. The temperature shall be recorded on an hourly basis for the duration of operation.

3) two pressure impregnation carbonization (PIC) units controlled by a wet scrubber;
The two (2) PIC units are utilized for a process that is controlled by a wet scrubber. In this process argon gas is used to pressurize each oven, which operates near 650^{o}C. Heavy hydrocarbon fumes from each vessel combine and vent to a wet scrubber approximately 5' in diameter and 5' tall. The wet scrubber condenses the emissions with an expected control efficiency of greater than 99%. Intermat will operate the scrubbers in accordance with the manufacturers' specifications throughout the PIC cycle.

4) one graphitizer power bank supporting two (2) electric furnaces with emissions controlled by an incinerator;
Intermat operates two (2) graphitizers which are furnaces that take carbonized parts and heat them to 2500^{o}C. Presently small amounts of heavy hydrocarbons are emitted from these furnaces and are vented to an incinerator. The incinerator has a heat input capacity of 600,000 Btu/hr firing natural gas and shall attain a 1650^{o}C temperature with a retention time of at least 0.75 seconds. The temperature shall be recorded on an hourly basis.

5) one dust collector controlled by filter screens.
The machine shop consists of grinders and saws which create graphite dust. At each work station flexible hoses collect the dust by way of a vacuum and pass the air through cartridge-type dust collectors. The filtered air is then either vented back to the machine shop or is vented through the roof vents. The dust collectors have a rated efficiency of 99.6% @ 0.1 micron. The emissions, when vented through the roof vents, shall not exceed 20% opacity based on a six (6) minute block average basis.

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

Pollutant	**Tons/Year**
PM	50
PM_{10}	25
SO_2	50
NO_x	100
CO	250

Therefore, based on the license allowed emissions from this source, monitoring and modeling are not required for this license renewal.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-302-71-G-R subject to the following conditions:

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. § 353.

(6) The license does not convey any property rights of any sort, or any exclusive privilege.

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

(i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

b. pursuant to any other requirement of this license to perform stack testing.

(ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

(iii) submit a written report to the Department within thirty (30) days from date of test completion.

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

(i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

(ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

(iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

(16) Boiler #1

A. Emissions from boiler #1 shall not exceed the following:

Equipment		**PM/PM_{10}**	**SO_2**	**NO_x**	**CO**	**VOC**
Boiler #1	lb/hr	0.01	0.01	0.11	0.04	0.03

B. Visible emissions from boiler #1 shall not exceed 20% opacity based on a six (6) minute block average basis.

(17) Process Emissions

A. Impregnation Process
   1. all emissions shall be vented through a condenser and coalescent filter
   2. a log shall be maintained documenting all maintenance on the control equipment to include the date of all occasions on which the filters are drained.

B. Carbonization Process
   1. Intermat shall operate an incinerator to control emissions from the carbonizer process and this equipment shall be operated for the entire duration of the carbonization process.
   2. The incinerator shall operate at a temperature of at least 1600^{o}F and have a retention time of at least 0.5 seconds.
   3. The temperature of the incinerator shall be recorded at a minimum of once per hour when the carbonizer is operating.
   4. A pyrometer or thermocouple shall be maintained in the afterburner at the point that represents 0.5 second retention time at 1600^{o}F.
   5. Emissions from the carbonizer shall be limited to the following:

Pollutant	**lb/hr**
PM	0.01
PM_{10}	0.01
SO_2	0.01
NO_x	0.16
CO	0.06
VOC	0.01

C. PIC Units
Intermat shall maintain and operate a wet scrubber to control emissions from the PIC process, at all times this process is in operation.

D. Graphitizers
1. An incinerator shall be maintained and operated to control the combined emissions of the two (2) graphitizers,
2. The incinerator shall operate at a temperature of at least 1650^{o}F and have at least a 0.75 second retention time,
3. The temperature of the incinerator shall be recorded at a minimum of once per hour when either graphitizer is in operation.
4. A pyrometer or a thermocouple shall be maintained in the afterburner at the point that represents a retention time of 0.75 seconds.
5. Emissions from the graphitizer incinerator shall not exceed the following:

Pollutant	**lb/hr**
PM	0.01
PM_{10}	0.01
SO_2	0.01
NO_x	0.06
CO	0.02
VOC	0.01

E. Visible emissions from all process equipment shall not exceed an opacity of 20% based on a six (6) minute block average basis.

(18) Intermat shall be limited to annual natural gas fuel use of 9.0 $MMft^3$ (based on a 12 month rolling total). Intermat shall maintain records documenting the natural gas fuel use for the facility.

(19) Annual Emission Restrictions
Intermat shall be restricted to the following annual emissions, based on a 12 month rolling total:

Pollutant	**Tons/Year**
PM	0.10
PM_{10}	0.10
SO_2	0.10
NO_x	0.70
CO	0.30
VOC	0.10

(20) The term of this license shall be five (5) years from the signature date below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2000.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 23, 2000
Date of application acceptance: March 24, 2000

Date filed with the Board of Environmental Protection: _____

This Order prepared by Stephanie L. Carver, Bureau of Air Quality